CLAIMS

What is claimed as new and desired to be protected by Letters Patent of the United States is:

1. An imager apparatus comprising:

a pixel array having an active imaging area and a non-active area, said active area and non-active area being defined by an opaque mask provided over the pixels in said non-active area, said pixel array having a plurality of first pixels in said active area and a plurality of second pixels in said non-active area; and

said mask having a plurality of apertures located over and exposing at least one of said second pixels.

2. The imager according to claim 1, wherein said apertures of said mask are different sizes.

3. The imager according to claim 2, wherein said different sized apertures expose said at least one second pixel to differing amounts of light.

4. The imager according to claim 1, wherein said apertures of said mask are gradiated such that each successive aperture is larger than one adjacent to it.

5. The imager according to claim 1, wherein said mask is made of metal.

6. The imager according to claim 1, wherein said second pixels comprise at least one row of pixels outside said active area.

7. The imager according to claim 1, wherein said second pixels comprise at least one column of pixels outside said active area.

8. The imager according to claim 1, wherein said second pixels are a different size from said first pixels.

9. The imager according to claim 1, wherein said second pixels are covered by a color filter.

10. The imager according to claim 1, wherein a signal from said at least one second pixel is used to determine light intensity.

11. The imager according to claim 1, wherein a signal from said at least one second pixel is used to calibrate an analog to digital converter.

12. A method of determining light intensity in an imager, said method comprising:

shining a light of predetermined intensity through a mask over an array, said array comprising an active imaging area having a plurality of first pixels and a non-active area having a plurality of second pixels and said mask comprising varying aperture sizes over at least one of said second pixels;

determining light intensity by comparing saturation points of said second pixels with varying exposures; and

determining an integration time of the first pixels based on the determined light intensity.

13. The method according to claim 12, wherein feedback of said comparison of saturation points of said second pixels is provided to a chip, wherein said chip varies an integration time for said first pixels based on said light intensity determination.

14. The method according to claim 12, wherein said second pixels comprise at least one row of pixels outside said active area.

15. The method according to claim 12, wherein said second pixels comprise at least one column of pixels outside said active area.

16. The method according to claim 12, wherein said varying aperture sizes of the mask are gradiated such that each aperture is larger than the one adjacent to it.

17. The method according to claim 12, wherein said second pixels are a different size from said first pixels.

18. The method according to claim 12, wherein said second pixels are covered by a color filter.

19. A method of calibrating analog to digital conversion of an analog to digital converter in an imager comprising:

shining a light of predetermined intensity through a mask over an array, said array comprising an active imaging area having a plurality of first pixels and a non-active area having a plurality of second pixels and said mask comprising varying aperture sizes over at least one of said second pixels;

measuring light received at said second pixels exposed by the varying sized apertures;

converting said measured light received from an analog to a digital signal; and

calibrating said analog to digital conversion using the digital signal.

20. The method according to claim 19, wherein said digital output from each of said second pixels is compared with an expected

digital output and a voltage ramp is created from said comparison to test and calibrate analog to digital conversion.

21. The method according to claim 19, wherein said second pixels comprise at least one row of pixels outside said active area.

22. The method according to claim 19, wherein said second pixels comprise at least one column of pixels outside said active area.

23. The method according to claim 19, wherein said varying aperture sizes of the mask are gradiated such that each aperture is larger than the one adjacent to it.

24. The method according to claim 19, wherein said second pixels are a different size from said first pixels.